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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,410	08/27/2003	Hans-Georg Mensch	P2001,0132	5309

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EXAMINER

HO, TU TU V

ART UNIT PAPER NUMBER

2818

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/649,410		MENSCH ET AL.	
	Examiner		Art Unit	
	Tu-Tu Ho		2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 08/27/2003.
- 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath/declaration filed on 08/27/2003 is acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-2 and 4** are rejected under 35 U.S.C. 102(b) as being anticipated by Evans et al. U.S. Patent 5,219,712 (related to European Patent Application Publication 0 319 175, which is cited by Applicant).

Evans discloses in the figures, particularly Figure 15, and respective portions of the Specification a semiconductor chip and a method of fabricating a housing for a semiconductor chip as claimed.

Referring to **claim 1**, Evans discloses a semiconductor chip, comprising:

a top side with a surface;

said top side having a first portion (an outer portion of chip 50 defined by barrier 66) to be covered by a potting compound or encapsulation compound of a housing;

~~said top side having a second portion (an inner portion of chip 50 defined by barrier 66)~~
to remain free of the potting compound or encapsulation compound;

a facilitator selected from the group consisting of a material 54 (radiation energy/particle 54) applied thereon and an areal structure 66 formed thereon for defining a variation in a degree of wettability or adhesion characteristics relative to the potting compound or the encapsulation compound for said surface in said first portion and said surface in said second portion, said facilitator rendering wetting, flowing, or adhesion of the potting compound or encapsulation compound in said second portion of said top side more difficult than in said first portion, and promoting an application of the potting compound or encapsulation compound exclusively on said first portion.

Regarding **claim 2**, Evans further discloses that said first portion of said top side includes connection pads and/or bonding wires 60 and said second portion of said top side includes at least one active component 58.

Referring to **claim 4**, Evans discloses a method for producing a housing for a semiconductor chip 50, which comprises:

selecting a potting compound or encapsulation compound (uncured) 62 for forming a housing for the semiconductor chip;

processing a surface of the semiconductor chip in a second portion (an inner portion of chip 50 defined by barrier 66) of a top side thereof with at least one process selected from the group consisting of coating (coating is interpreted broadly) a material 62/54 (uncured resin 62 and radiation energy/particle) and areally structuring to form a configuration 66 thereon rendering wetting, flowing, or adhesion of the potting compound or encapsulation compound more difficult than in a first portion (an outer portion of chip 50 defined by barrier 66) of the top

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side, and promoting application of the potting compound or encapsulation compound exclusively on the first portion of the top side; and

subsequently applying the potting compound or encapsulation compound to the top side of the semiconductor chip and thereby:

covering the first portion of the top side with the potting compound or encapsulation compound; and

leaving the second portion of the top side free of the potting compound or encapsulation compound.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 3** is rejected under 35 U.S.C. §103(a) as being unpatentable over Evans for being obvious.

Evans discloses a semiconductor chip as claimed and as detailed above including the second portion but fails to disclose that the second portion comprises a bearing area for a finger. Nevertheless, since Evans does not exclude the use of a bearing area for a finger for the second portion, it follows that at the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the second portion such that the second portion comprises a bearing area for a finger.

Allowable Subject Matter

4. **Claim 5** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable subject matter: The cited art, whether taken singularly or in combination, especially when all limitations are considered within the claimed specific combination, fails to teach or render obvious a method for producing a housing for a semiconductor chip having all limitations as recited in claims 4 and 5, characterized in the limitations of claim 5.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent 6,388,199 to Jiang et al. discloses a semiconductor package including a substrate having a solder resist with a first portion having a first surface tension and a second portion having a second surface tension for promoting encapsulant adhesion in the first portion.
- b. U.S. Patent 5,963,679 to Setlak discloses a fingerprint sensor including an array of electric field sensing electrodes and a driver for providing a coherent drive signal for the array.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (571) 272-1778. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



Tu-Tu Ho
May 19, 2004



David Nelms
Supervisory Patent Examiner
Technology Center 2800